DECONTAMINATION 8.3.2

Decontamination is the cleaning process used to remove potential contaminants from equipment. Do not collect, process, or handle samples until the equipment has been completely decontaminated.

Decontaminate all new and used equipment to be used for sample collection, processing, and handling. Equipment also should be decontaminated in the field immediately after completion of sampling. If complete equipment decontamination is not possible in the field, rinse equipment thoroughly with water at the field site and store for complete decontamination. Document decontamination procedures in study notes or on the field form.

Before starting equipment decontamination, check the construction material of field equipment, cleaning equipment, and supplies:

- If your samples will be analyzed for metals and metalloids, do not use metallic equipment and supplies. Use nonreactive cleaning equipment and supplies composed of uncolored or white polypropylene, polyethylene, polyfluorocarbon, or some other suitable non-metallic material.
- If your samples will be analyzed for organic compounds, do not use reactive plastic equipment and supplies. Use nonreactive cleaning equipment and supplies composed of metal, glass, or polyfluorocarbon materials.
- Use materials, supplies, and equipment for cleaning supplied by the USGS Quality of Water Service Unit (QWSU) in Ocala, Florida. A list of equipment and supplies used to clean and maintain equipment is given in section 8.7.

Use the following three-step decontamination procedure *(put on disposable gloves and other appropriate protective clothing before starting):*

1. Wash equipment thoroughly with phosphate-free detergent.
2. Rinse with copious quantities of tap water.
   - If equipment has recalcitrant mineral residues, rinse nonmetallic equipment with a dilute acid solution.
   - If equipment has recalcitrant oily residues, rinse nonplastic equipment parts with pesticide-grade methanol.
3. Rinse with copious quantities of deionized water.

Store cleaned equipment inside sealable polyfluorocarbon or other uncolored plastic bags.

Improperly cleaned equipment is a source of sample contamination.

CAUTION: Before handling chemicals, refer to Material Safety Data Sheets for proper precautions.

- ▶ Wear appropriate safety gloves, glasses, and protective clothing.
- ▶ Clean chemical spills immediately.
- ▶ Dispose chemical solutions according to regulations.